EA RESPONSES TO EPA COMMENTS, DRAFT FIELD SAMPLING PLAN (REVISION 00, 11/06/12), DRAFT QUALITY ASSURANCE PROJECT PLAN (REVISION 00, 11/06/12), DRAFT SITE MANAGEMENT PLAN (REVISION 00; 10/30/12)
FALCON REFINERY SUPERFUND SITE

EPA Comment No. 1

Ground Water Sampling Locations

The Final FSP shall discuss the additional sampling for the following areas within Area of Concern 1 North Site (AOC 1 N) where chemical concentrations exceeded ground water screening levels during the Phase I RI/FS (the nomenclature was assigned by the PRP) and any ground water contamination that could be attributed to Great Plains Marketing (currently under voluntary cleanup program under State regulations):

a) TW01-01: Naphthalene, detected in the ground water, exceeded the EPA human health screening level.
b) TW0l-02: Benzene, detected in the ground water, exceeded the EPA human health screening level. The map provided by NORCO, in the Phase I data, did not reflect this exceedance. Ethylbenzene, naphthalene, and xylene (total), detected in the ground water, did not exceed human health screening levels but are common petroleum refinery pollutants.
c) TW01-07: Benzene, detected in the ground water, exceeded the federal "maximum contaminant level" (MCL) for drinking water and the TCEQ human health screening level. N-butylbenzene detected in the ground water, exceeded the EPA human health screening level. Ethylbenzene and naphthalene, detected in the ground water, did not exceed human health screening levels but are common petroleum refinery pollutants.
d) TW01-11: Benzene, detected in the ground water, exceeded the TCEQ human health screening level. Naphthalene, n-butylbenzene, and 2-methynaphthalene, detected in the ground water, exceeded the EPA human health screening level. Ethylbenzene and toluene, detected in the ground water, did not exceed human health screening levels but are common petroleum refinery pollutants.
e) TW01-12: Naphthalene, detected in the ground water, exceeded the EPA human health screening level.
f) TW01-18: Benzene, detected in the ground water, exceeded the EPA human health screening level. The map provided by the PRP, in the Phase I data, did not reflect this exceedance. Ethylbenzene, toluene, and xylene (total), detected in the ground water, did not exceed human health screening levels but are common petroleum refinery pollutants.

EA Response: As recommended by the EPA, two additional monitoring wells were added in AOC-1N. This change is incorporated in the Figures for the Final FSP and the sample design matrix (Appendix B in the Final FSP).

EPA Comment No. 2

Soil Sampling Locations

The Final FSP shall discuss the additional sampling for the following areas within AOC 1 (South Site) where chemical concentrations exceeded soil screening levels during Phase I and where Superior Crude hydrocarbon spills have been documented in the past:

a) J-03S, J-04S, and J-09S: Several semi-volatile organic compounds, detected in the surface soil, exceeded the TCEQ and/or the EPA human health screening level.
b) J-05S and J-10S: 1,3,5-trimethylbenzene, detected in the subsurface soil, exceeded the EPA human health screening level.

EA Response: As recommended by the EPA, six additional soil sampling locations were added. This change is noted in the sample design matrix, the Final FSP, and the Final QAPP.

EPA Comment No. 3

Redfish Bay Sediment Sampling Locations

The Final FSP shall discuss the additional sampling for the following areas within AOC 5. (Redfish Bay) where chemical concentrations exceeded sediment screening levels during the Phase I RI:

a) J-60SD: Several semi-volatile organic compounds, detected in the sediments, exceed their respective ecological screening levels. Also, chromium, mercury, and zinc, detected in the sediments, exceeded their respective ecological screening levels.

EA Response: As recommended by the EPA, three additional sediment sampling locations were added in AOC-5. The three sample sampling locations will also be used for additional surface water sampling. This change is noted in the sample design matrix, the Final FSP, and the Final QAPP.

EPA Comment No. 4

New "Integrated Risk Information System" Values for Polychlorinated Biphenyls

The Final FSP and/or QAPP shall discuss the new "Integrated Risk Information System" (IRIS) values which are being proposed for polychlorinated biphenyls (PCBs) and which are expected to be finalized in June 2013. Following are the preliminary values from the draft document:

- For Aroclor 1254, at a cancer risk of 1.0×10^{-5}, the current value is 1.1 parts per million (ppm) for a residential scenario, the new draft proposed value is 0.017 ppm.

- For Aroclor 1254, at a cancer risk of 1.0×10^{-5}, the current value is 11.0 ppm for an industrial scenario; the new draft proposed value is 0.18 ppm.
- For Aroclor 1016, at a cancer risk of 1.0×10^{-5}, the draft value is 3.9 ppm for a residential scenario and 37.0 ppm for an industrial scenario.

EA Response: A discussion of the IRIS values was added to the Final QAPP under Section 1.3.6.2, where action levels for PCBs are addressed. The following text was added:

> *"EPA's new Integrated Risk Information System (IRIS) is a human health assessment program that evaluates information on health effects that may result from exposure to environmental contaminants. IRIS values are being proposed for PCBs and are expected to be finalized in June 2013. Once published, these values will be considered during evaluation of the Phase II investigation results."*

Specific values were not incorporated in the tables, since only proposed values are currently available. Finalized values will be included in the evaluation of the Phase II investigation data, if available at the time.

EPA Comment No. 5

Toxicity Equivalent Factors for Dioxin-Like Compounds

The Final FSP and/or QAPP shall discuss the new "dioxin" guidance document titled, "Recommended Toxicity Equivalence Factors (TEFs) for Human Health Risk Assessments of 2,3,7,8-Tetrachlorodibenzo-p-dioxin and Dioxin-Like Compounds." This document establishes new values for dioxin-like PCBs and describes a toxicity equivalence factor (TEF) method for evaluating PCB congeners.

EA's Response: A discussion of the TEF methodology for dioxin-like PCBs was added to the Final QAPP under Section 1.3.6, where action levels for PCBs are addressed. The following text was added:

> *"The EPA recommends that a toxicity equivalence factor (TEF) methodology be used to evaluate human health risks posed by PCBs using 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) as the index chemical (EPA 2010a). The TEFs provided in 'Recommended Toxicity Equivalence Factors (TEFs) for Human Health Risk Assessments of 2,3,7,8-Tetrachlorodibenzo-p-dioxin and Dioxin-Like Compounds' will be used to evaluate the health risks posed by PCB-contamination identified during the Phase II investigation."*

The "Recommended Toxicity Equivalence Factors (TEFs) for Human Health Risk Assessments of 2,3,7,8-Tetrachlorodibenzo-p-dioxin and Dioxin-Like Compounds" was added to the references of the Final QAPP.

EPA Comment No. 6

Data Reduction

The Final FSP and/or QAPP shall include statements concerning "data reduction." The following examples of statements should be considered during the data reduction phase of the RI/FS for the Site:

- A chemical will be carried forward into the risk assessments at one-half the detection limit if a chemical's detection limit is higher than its respective screening value.
- If a chemical is reported in a field sample and in a method blank or field blank, it will be considered as a positive identification if the chemical is present in the field sample at a concentration greater than 10 times (for common laboratory contaminants) or 5 times (for all other substances) the maximum concentration reported in any blank. Common laboratory contaminants include acetone, methylene chloride, methyl ethyl ketone (2-butanone), phthalate esters, and toluene.
- All data with "estimated" qualifiers will be assumed to be positive identifications for the chemical in that medium and the corresponding reported concentrations will be used.

EA Response: The following text was added to Section 1.3.6.2 of the QAPP:

> *"A chemical will be carried forward into the risk assessments at one-half the detection limit if a chemical's detection limit is higher than its respective screening value."*

The following text was added to Section 1.4.3 of the QAPP:

> *"All data with estimated qualifiers will be assumed to be positive identifications for the chemical in that medium and the corresponding reported concentrations will be used."*

The following text was added to Section 2.8.1 of the QAPP:

> *"If a chemical is reported in a field sample and in a field blank above the MDL, it will be considered as a positive identification if the chemical is present in the field sample at a concentration greater than 5 times the maximum concentration reported in any blank."*

The following text was added to Section 2.8.2.2 of the QAPP:

> *"If a chemical is reported in a field sample and in a method blank, it will be considered as a positive identification if the chemical is present in the field sample at a concentration greater than 10 times (for common laboratory contaminants) or 5 times (for all other substances) the maximum concentration reported in any blank. Common laboratory contaminants include acetone, methylene chloride, methyl ethyl ketone (2-butanone), phthalate esters, and toluene."*

EPA Comment No. 7

Section 1.1 - Site Background and Description (Page 1)

The Draft FSP states that the refinery operates intermittently. The Final FSP shall be amended to state that, "... operated intermittently and has not produced hydrocarbon products in several years."

> **EA Response:** The recommended text was added to Section 1.1 of the Final FSP and Section 1.1.2 of the Final QAPP.

EPA Comment No. 8

Section 1.1.1 - Purpose of the Investigation and Sampling Events (Page 3)

The Draft FSP references Section 1.3.2.3. The Final FSP shall be amended to remove references to Section 1.3.2.3., since it could not be located.

> **EA Response:** The Draft FSP does not have a Section 1.1.1. The Draft QAPP has Section 1.1.1 - Purpose of the Investigation and Sampling Events (page 3). The reference to Section 1.3.2.3 is valid in the Draft QAPP, as it refers to the Conceptual Site Model (page 11).

EPA Comment No. 9

Section 1.3 - Project Objectives (Page 3)

The Draft FSP, in several sections, states that, "20% of the samples will be analyzed for polychlorinated biphenyls (PCBs) and herbicides/pesticides. Roughly half the PCB samples (about 10% of the total samples) will be analyzed for PCB congeners." The Final FSP shall be amended to state that the EPA's Task Order Monitor (TOM) will determine the number of PCBs (assuming total Aroclors) and PCB congeners field data that will be collected and analyzed based

on the frequency of detection of these chemicals from the previous data collected by the PRP for the Site. This additional text shall be included in all of the appropriate sections of the FSP and QAPP. The proposed values of 20% and 10% for total PCBs and congeners, respectively, may be excessive based on the EPA's preliminary review of the previous Phase I data for the Site.

EA Response: The statement regarding the number of PCB and PCB congener samples was replaced by the following text in several locations throughout the Final FSP and Final QAPP:

"The EPA TOM will determine the number of samples to be analyzed for polychlorinated biphenyls (PCBs) and PCB congeners based on the frequency of detection of these chemicals from previous data collected by the PRP for the site. Twenty percent of the samples will be analyzed for herbicides/pesticides."

EPA Comment No. 10

Section 1.3 - Project Objectives (Page 4)

The Draft FSP states that, "An ecological characterization may be conducted after consultation with EPA. This characterization may include wetland or habitat delineation, wildlife observations, or ecological toxicity tests." The Final FSP shall be amended to state that, "An ecological characterization may be conducted if the previous ecological characterization is not of the quality needed for this RI/FS." This additional text shall be included in the appropriate sections of the Final FSP and QAPP.

EA Response: The statement regarding ecological characterization was amended as recommended by the EPA in the Final FSP and Final QAPP in several locations.

EPA Comment No. 11

Section 1.3-Project Objectives (Page 4)

The Draft FSP states that, "Fish tissue samples (up to 16 samples) will be collected from the site." The Final FSP should be amended to state that "Fish tissue samples will be collected, and analyzed, based on the results of the "Screening Level Ecological Risk Assessment." This additional text shall be included in the appropriate sections of the Final FSP and QAPP.

EA Response: The statement regarding fish tissue sampling was amended as recommended by the EPA in the Final FSP and Final QAPP in several locations.

EPA Comment No. 12

Section 1.3 - Project Objectives (Page 6)

The Draft FSP states that, "... the FS Report will be prepared to provide a detailed analysis of alternatives and cost-effectiveness analysis." The Final FSP should be amended to state that, "... the FS Report will be prepared to provide a detailed analysis of alternatives and cost-effectiveness analysis, and will include the nine criteria in the National Contingency Plan." This additional text shall be included in the appropriate sections of the Final FSP and QAPP.

EA Response: The statement regarding the FS Report was amended as recommended by the EPA in the Final FSP and Final QAPP.

EPA Comment No. 13

Section 2.1.6 - Fish Tissue (Page 10)

The Draft FSP states that, "It is likely that fish will be removed from the site via fish shocking." The Final FSP shall be amended to state that, "The EPA and the U.S. Fish and Wildlife Service will consider techniques for the collection of fish tissue data, based on the results of the SLERA."

EA Response: The statement regarding the fish shocking was amended as recommended by the EPA in the Final FSP.

EPA Comment No. 14

Section 2.6 - Consent for Property Access (Page 16)

The Draft FSP states that, "EPA will obtain consent for property access agreements from the private property owners that have been identified for investigation under the RI/FS." The Final FSP should be amended to state that, "EA will obtain consent for property access agreements from the private property owners whose properties have been identified for investigation under the RI/FS. The EPA will provide draft access agreements to EA for use during this effort. The EPA will assist EA if a property owner does not provide access to critical areas of the Site." This additional text shall be included in the appropriate sections of the Final FSP and QAPP.

EA Response: The statement regarding the consent for property was amended as recommended by the EPA in the Final FSP.

EPA Comment No. 15

Section 3.8 - Background Locations (Page 21)

The Draft FSP describes the sample design matrix for background data for all media. The Final FSP shall be amended to include the rationale for the selection of background sampling locations (e.g., collected from areas unaffected by Site activities, etc) and the number of samples that will collected and analyzed. The Final FSP shall state that, "Background reference areas will be based on media with similar characteristics to the media associated with the AOC being investigated. Additionally, the background reference areas shall have the same physical, chemical, geological, and biological characteristics as the Site, but have not been affected by activities on the Site. Also, background sample locations should not be established at locations directly influenced by, or in close proximity to, obvious sources (e.g., other sites, storm water and point source outfalls, bridges, and roadways, etc)."

EA Response: The statement regarding the background samples was amended as recommended by the EPA in the Final FSP.

EPA Comment No. 16

Distribution List (Page 1)

The Draft QAPP includes the distribution list for documents associated with the Site. The Final QAPP shall be amended to include Phillip Winsor, instead of Danielle Sattman, as the TCEQ's Project Manager.

EA Response: The TCEQ's Project Manager was changed to Phillip Winsor in the Final FSP and Final QAPP.

EPA Comment No. 17

Section 1.0 - Project Description and Management (Page 1)

The Draft QAPP includes Figure 1 (Project Organization). Figure 1, of the Final QAPP, shall be amended to include TCEQ's Project Manager, EPA's and TCEQ's human health and ecological risk assessors, and the State/Federal natural resource trustees.

EA Response: Figure 1 in the Final QAPP has been updated to include TCEQ's Project Manager, EPA's and TCEQ's human health and ecological risk assessors, and the State/Federal natural resource trustees.

EPA Comment No. 18

Section 1.1 - Problem Definition and Background (Page 3)

The Draft QAPP references Sections 1.1.2 (National Priorities List [NPL]) and 1.1.3 (Removal Action [RA]). The Final QAPP shall be amended to include information concerning the NPL and the RA being conducted under an administrative order.

EA Response: Section 1.1.3 on the Removal Action and Section 1.1.4 on the site listing on the NPL were added to the Final QAPP.

EPA Comment No. 19

Section 1.2.1 - Project Objectives (Page 7)

The Draft QAPP, under the section titled "Alternatives Development and Screening Memorandum" (ADSM) provides a reference to "applicable or relevant and appropriate requirements." The Final QAPP shall describe the preliminary "applicable or relevant and appropriate requirements" (ARARs) that could be applicable to the Site. Additionally, these ARARs shall be summarized in table format. ARARs should be included early in the RI/FS process since ARARs could be used as screening levels.

EA Response: As recommended by the EPA, a table summarizing ARARs was added as Appendix D to the Final QAPP.

EPA Comment No. 20

Section 1.3.2.1 - Conceptual Site Model (Page 15)

The Draft QAPP states that, "Additional background samples will be collected during the Phase II investigation and a background study completed." This Final QAPP shall be amended to include that, "Background reference areas will be based on media with similar characteristics to the media associated with the AOC being investigated. Additionally, the background reference areas shall have the same physical, chemical, geological, and biological characteristics as the Site, but have not been affected by activities on the Site. Also, background sample locations should not be established at locations directly influenced by, or in close proximity to, obvious sources (e.g., other sites, storm water and point source outfalls, bridges, and roadways, etc)."

EA Response: The statement regarding the background samples was amended as recommended by the EPA in the Final QAPP.

EPA Comment No. 21

Section 1.3.2.2 - Planning Team Members and Stakeholders (Page 10)

The Draft QAPP identifies the stakeholders for the Site. The Final QAPP shall be amended to include TCEQ's Project Manager, EPA's and TCEQ's human health and ecological risk assessors, and the State/Federal natural resource trustees.

EA Response: As recommended by the EPA, the list of stakeholders was updated in the Final QAPP.

EPA Comment No. 22

Section 1.3.4.1 - Necessary Information and Sources (Page 18)

The Draft QAPP states that, "An ecological habitat survey may be conducted to narrow or broaden the potential receptors of concern." The Final QAPP shall be amended to state that, "An ecological habitat survey may be conducted if the previous ecological characterization performed by the PRP's contractor is not of the quality needed for this RI/FS."

EA Response: The statement regarding the ecological habitat survey was amended as recommended by the EPA in the Final QAPP.

EPA Comment No. 23

Section 1.3.4.2 - Basis of Information (Page 19)

The text of the first bullet of the Draft QAPP describes the use of the Phase I and II data. The Final QAPP shall be amended to state that, "An evaluation will be performed of previous Phase I investigation data and the Phase II investigation data to be acquired."

EA Response: The text was changed to say "performed" instead of "conducted," as recommend by the EPA.

EPA Comment No. 24

Section 1.3.5.1 - Target Population (Page 21)

The Draft QAPP states that, "The site is divided into seven different AOCs as described in Section 1.3.2.1." The Final QAPP shall be amended to state that, "The site is divided into seven different AOCs as described in Section 1.3.2.3."

EA Response: The text was changed to say "Section 1.3.2.3" instead of "Section 1.3.2.1," as recommend by the EPA.

EPA Comment No. 25

Section 1.3.6.2 - Action Level Decision Rule (Page 23)

Appendix A (Reference Tables) of the Draft QAPP identifies the primary screening levels and contract-required quantitation limits (CRQLs) for the "chemicals of potential concern (COPCs), which are based on EPA residential RSLs. Reference values for COPCs for surface soil are provided in Table A-3. Appendix A lists a subset of COPCs that may be of concern in, for example, surface soil rather than the screening values for all COPC's. Given that the Phase II sampling has not been implemented, it is premature to refine the list of COPC's. Appendix A shall be amended to include all COPCs. Additionally, Appendix A shall identify the human health and ecological screening levels which are less than their respective contract-required quantitation limits or method quantitation limits (depending on the terminology used by the laboratory). The Final QAPP and FSP where appropriate, shall identify the rationale (e.g., data reduction) for addressing these chemicals in the human health and ecological risk assessments.

EA Response: The Appendix A tables were updated to include a complete list of COPC, as recommended by the EPA.

EPA Comment No. 26

Table A-11 - Reference Limits for Contaminates in Fish (Page A-11-1)

Table A-11, of the Draft QAPP, provides reference limits for contaminants in fish. Table A-11 of the Final QAPP shall provide the source utilized to derive the reference concentrations in fish.

EA Response: A reference has been added to Table A-5, which is now provides reference limits for contaminants in fish in the Final QAPP.

EPA Comment No. 27

Section 1.0 - Introduction (Page 1)

The Draft SMP states that Rafael Casanova is the TOM for the Site. The Final SMP should be amended to include Brian Mueller as the EPA's TOM and Rafael Casanova as the "alternate TOM" for the Site.

EA Response: The text was changed to identify Brian Mueller as the EPA TOM and Rafael Casanova as the alternate TOM for the site.

EPA Comment No. 28

Section - 2.0 - Security (Page 3)

The Draft SMP states that, "Due to the proximity to the border, EA sample teams will consist of two or more persons." The Final SMP shall be amended to exclude the statement concerning the border.

EA Response: The statement concerning the border was excluded from the text.

EPA Comment No. 29

Section 3.0 - Site Access (Page 4)

The Draft SMP states that, "EPA and EA will coordinate to provide access agreements for the properties that are subject to investigation." The Final SMP shall be amended to state that, "EPA and EA will coordinate to provide access agreements for the properties that are subject to investigation; however, EA will take the lead in obtaining signed access agreements."

EA Response: The statement regarding the access agreements for the properties was amended as recommended by the EPA in the Final SMP.

EPA Comment No. 30

Section 7.3 - Site Manager (Page 5)

The Draft SMP states that, "The SM will manage the daily activities at the site and will coordinate communications between subcontractor, local emergency response, local government, EPA, and Texas Commission on Environmental Quality personnel as appropriate." The Final SMP shall be amended to state that, "The SM will manage the daily activities at the Site and will coordinate communications between subcontractor, local emergency response, local government, EPA, Texas Commission on Environmental Quality personnel, and the State and Federal natural resource trustees as appropriate."

EA Response: The statement regarding the SM's duties was amended as recommended by the EPA in the Final SMP.

EPA Comment No. 31

Section 2.1 - Environmental Sampling and Analysis Overview (Page 2)

The Draft DMP discusses "data validation." The Final DMP shall be amended to state that, "The samples that are submitted through the Houston Contract Lab Program (CLP) for analyses will be validated by the CLP."

> **EA Response:** The statement regarding data validation was amended as recommended by the EPA in the Final DM.